Products:Sing-Tsung

From Linux Box Wiki

How to use Sing-Tsung

General Help

What is Tsung

Tsung is a plugin-based load-testing application, with plugins for generating simulated traffic for several network protocols, including HTTP. Tsung has a recorder you can use to record web traffic from a browser, and it has a player that you can use to play back that web traffic, to simulate large numbers of users accessing your website simultaneously. Tsung's recorder implements a conventional HTTP proxy mechanism to collect the traffic. Tsung's playback module correctly handles most kinds of dynamic applications. Using Tsung, you can see how your web application stands up to load, with precise control over the activities being simulated.

What is Sing-Tsung

Sing-Tsung is a web front-end to Tsung. The goal is to make Tsung easy to use, by adding a GUI to the Tsung functionality.

What is a typical Sing-Tsung session like?

Generally, the cycle works like this:

1. You go to the #Record screen screen and record a "Session". A "Session" is a typical use-case -- something you expect a user to do. You can record as many of these as you see fit. Perhaps there are several different ways you expect your site to be used. Record one session for each of these use-cases.
2. You go to the #Manage screen and set up a "Profile". A "Profile" describes the type of load

> you want generated. You tell it which "Session"s to use to generate the load, and set the rates at which users arrive.
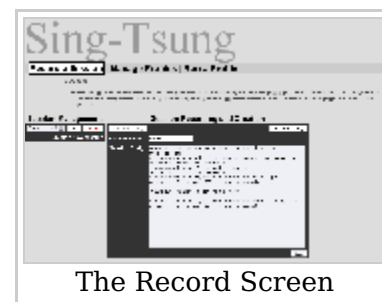> 3. You go to the #Run screen and select the "Profile" you just created. You click "Run Selected Profile" and wait for it to finish. While it's running, you should be able to see what it's doing by looking in the appropriate log files. The appropriate log files are the apache logs on the server that's hosting the application that you are testing.
> 4. You click the "Generate Stats Report" button, to see a number of interesting statistics about the profile that just finished running.

Screens

Record Screen

On the Record screen, you can record one or more "Sessions". A "Session" is a typical use-case of your web application. The basic idea is to click "Record a session", and use your web application like a typical user will. Then click "Stop" and "Save". You will later combine this and optionally other "Sessions" to make a "Profile" that you can use to test load.

You can also edit previously-saved "Sessions" on the Record screen.

The Record Screen

Creating a New Session

The first thing you see when you come to the Record screen is a blank slate for recording. To start the recording, click the "Start Recording" button. You will see a message that a proxy has been started.

The idea is that you will use your web browser, and the things you do will be recorded by the proxy. But first, you must set up your browser to use the proxy. The message on the screen should have the host name and port that you should use in your proxy. It might, for example, be 10.1.1.217, port 8090.

Below are instructions on how to configure your proxy, in both Firefox and IE.

Once your proxy is configured, you should use your web browser like you expect a user to. Everything you do will be recorded by Sing-Tsung.

When you are done, you can click "Stop Recording". Feel free to edit the Session Body by hand, if you wish, at this point. Or you could start the recording back up to record additional behavior.

Give this session a name, and click "Save". The session is now available to be used in the creation of "Profiles".
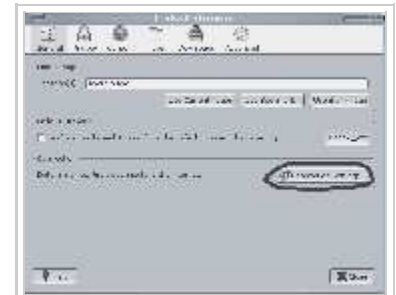
Configuring Your Proxy in Firefox

In Firefox 1.5, you can configure your browser for the proxy like so:

1. Go to "Edit > Preferences".
2. Look at the tab labelled "General".
3. Click the button marked "Connection settings".
4. Switch the radio button to "Manual Proxy".
5. Enter the hostname and port into the line labelled "HTTP Proxy". The hostname and port to use should be written in a message on-screen. It might be something like 10.1.1.217, port 8090.
6. Check the button marked "use the proxy for all protocols."
7. In the line marked "No Proxy For", put the same host-name that you put on the HTTP Proxy line. *If you neglect to do this, then the proxy will record your interactions with the Sing-Tsung application, as well as the target application.* This is probably not what you want.
8. Click "OK" and close the preferences dialog.

How to set up your proxy settings, if tsung were running on "piggy".

The "Connection Settings" button.

When you are done making your recording, you can turn off your proxy by following this procedure:

1. Go to "Edit > Preferences".
2. Look at the tab labelled "General".
3. Click the button marked "Connection settings".
4. Switch the radio button to "Direct connection to the internet".
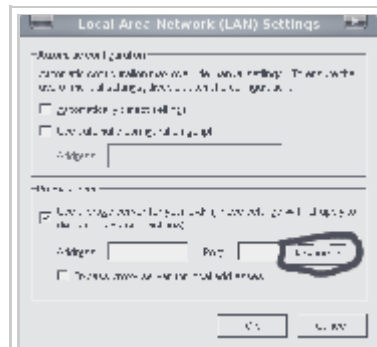5. Click "OK" and close the preferences dialog.

Configuring Your Proxy in Internet Explorer

In Internet Explorer 7, you can set up your proxy thusly:

1. Go to "Tools > Internet Options".
2. Switch to the "Connection" tab.
3. Click on "LAN Settings".

How to set up IE to use the proxy, if Tsung were running on "piggy".

IE LAN settings.

IE Preferences.

4. Check the box marked "Use a proxy server for your LAN...".
5. Click the "Advanced" button.
6. Put the hostname and port into the first line ("HTTP"). The hostname and port might be something like 10.1.1.217, port 8090, and it should be listed on-screen.
7. Put that same hostname into the "Exceptions".
8. Click OK and close the preferences dialog.

When you are done making your recording, you can turn off your proxy by following this procedure:
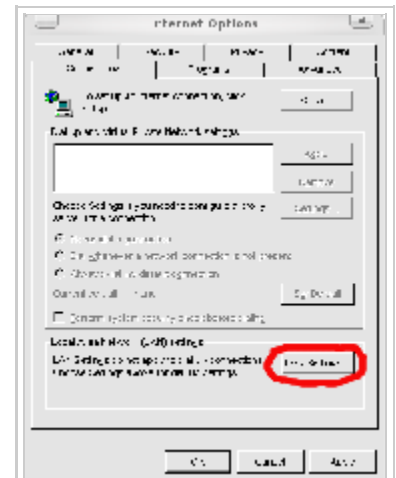
1. Go to "Tools > Internet Options".
2. Switch to the "Connections" tab.
3. Click on "LAN Settings".
4. Uncheck the box marked "Use a proxy server for your LAN...".
5. Click OK and close the preferences dialog.
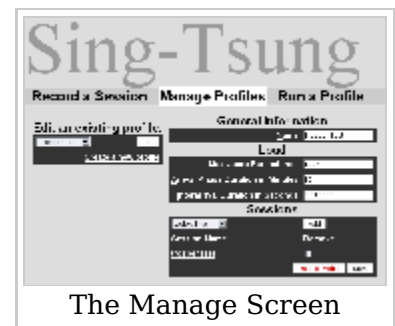
Editing an Existing Profile

To edit an existing session, look at the "Session Management" portion of the Record screen. There is a drop-down selector which contains the names of all the existing Sessions. Select yours and click "Edit". You can now edit that Session's recorded script. For example, you could edit it by hand, or you could click "Continue Recording" to add more recordings from the web proxy.

Deleting a Profile

To delete an existing session, look at the "Session Management" portion of the Record screen. There is a drop-down selector with the names of all the Sessions. Select yours and click "Delete". It will ask you to confirm. Note that you will be deleting the session mentioned in the drop-down selector, which may or may not be the same session that is shown in the main part of the page.

Manage Screen

On the Manage screen, you create a Profile. A Profile is a description of how to generate web traffic. It contains a list of Sessions to generate traffic from, and a couple of numbers specifying how to use those Sessions. In order to run any of the recordings you've made, you must put them into a Profile, so that Sing-Tsung knows what to do with your recordings.

The Manage Screen

The Load Section

In the Load section, you specify how much load is to be created.

When Tsung runs, it simulates "users", and each user executes one of the recorded Sessions. The amount of time it spends creating users is specified in the "Arrival Phase" portion. During this "Arrival Phase", it creates users. A new user is created at each interval of the "Interarrival Duration".

The Tsung documentation has relatively sparse information on the interplay of users, arrival phases, and interarrival rate. Our analysis and experimentation have shown that a *fractional* value for interarrival rate is required to simulate large traffic volumes. During Tsung playback, Tsung reports the currently simulated traffic in terms of requests per second, and also concurrent simulated users.

Once the number of simulated users exceeds the number specified in "Max Users", a new process is spawned. Spawning new processes allows the Erlang backend to run some of the processes on other processors, and to spawn more than one network connection.

The default values will generate a hefty amount of traffic:

- Max Users: 1024.

- Arrival Phase: 10 minutes.
- Interarrival Duration: 0.01 seconds.

The Sessions Section

Here, you say which sessions you want tsung to play.

You should see a drop-down selector which contains the names of all of your recorded Sessions. Select one, and click Add. It will be added to the list of Sessions.

You can also remove Sessions from the list by clicking the Remove checkbox. They will be removed when you click "Save".

Editing an Existing Profile

You can edit an existing Profile by selecting its name from the drop-down selector in the "Edit an existing profile" section. Click "Edit" to make it appear in the main section of the screen.

Deleting an Existing Profile

To delete an existing Profile, select its name from the drop-down selector in the "Edit an existing profile" section. Click "Delete". You will be asked to confirm. Note that you are deleting the profile whose name is in the drop-down selector, which may or may not be the same profile that is in the main section of the screen.

The Run screen

To run a profile, choose its name from the drop-down selector, and click "Run Selected Profile". It should tell you that Tsung is running. If you look at the logs on the target computer, you should see the traffic that is being generated.

Eventually, this should finish. You can stop it prematurely by clicking "Stop all Profiles".

The Run Screen

Once it's done, you should be able to see statistics about the profile you just ran by clicking "Generate Stats Report".

References

1. Official Tsung Documentation Tsung Documentation (http://http://tsung.erlang-projects.org/user_manual.html)

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